Controlled Switching of Surface Tension in Fluid Reservoirs for Energy Generation in Stationary Fluidic Bodies

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Introduction

In this author's publication of 6 August 2024, the phenomenon of superfluidity was attributed mass-inertia disparity brought about by the use of tritium under the ultracold condition. While this exotic condition would not be suitable for most any practical application, superfluid-like behavior can be brought about transiently and through other inducers than mass-inertia disparity.

Abstract

The surface tension of water is variable and is dependent upon factors such as the container used to store the water and ambient atmospheric pressure. In the absence of atmosphere, for example, water ceases to have surface tension and boils, turning to vapor. Hydrophobic materials create, by contrast, maximal surface tension.

Hydrophobic materials, when they come into contact with water, necessarily induce convection within water droplets, which arguably resemble a superfluid, particularly in the sense that this convection is generated without the injection of additional energy into the system. Unlike in a superfluid, the convection is localized to an individual droplet and the principle of conservation of momentum is preserved. However, if the energy from this fluidic rotation could be harvested, it could be repeatedly re-introduced into an individual droplet whereas the energy used to accomplish this would come from forces projected by the material, itself. The energy which generates the repulsive forces associated with the hydrophobic phenomenon is ultimately related to the structure of molecules, all of which have electrons. The energy associated with those electrons is fundamentally predicated upon gravity and the positive electrical charge of the protons in every atom, but can only be observed when molecules are structured so as to bestow them with hydrophobic properties, in this case. This is another example of how energy can be harvested from the atom without the need to fission the atom, in this case, with gravity being the technical intermediary of that energy transfer. The proton matrix voltage cell (ibid.) is another example of how such energy can be extracted. There may be many other ways of harvesting energy from gravity, but in today's publication, we are concerned with exploiting tunable surface tension in order to achieve this end.

In the case of the semiconductor switch called the thyristor, P- and N-type semiconductors are layered upon one another in order to allow for large amounts of current to be conditionally blocked or permitted to flow by adding or removing electrons from one of the layers. If a P-type semiconductor is rendered positive in charge i.e. it suddenly lacks electrons, it becomes

conductive and will begin to permit electrons to flow whereas it would block current if electrons are restored.

Using this, as well as superfluids as inspiration, one might attempt to controllably switch the hydrophobic properties of materials through the projection of acoustic energy through the material. A hydrophobic material made to vibrate in a particular manner could be predicted to cease to behave as a hydrophobic material and would become neutral in this regard. The kinetic energy in the water would be released and could be harnessed by such a hydrophobic material, provided that it is composed of material doped with iron and provided that rather than water, magnetized ferrofluids are utilized. In this way, the kinetic energy of the fluid could be harnessed through the conversion of kinetic motion through the dynamo effect; albeit at a small scale; when droplets of the fluid cease to exist as droplets and fall flat. Both the convection of the droplet and the action of the droplet flattening would be sources of energy which could be harvested.

Such a device would function with acoustic energy being introduced to the hydrophobic material alternatingly, causing the fluid within the mechanism to repeatedly form droplets and to begin to convect on an *intra-droplet* basis only to flatten each time acoustic energy of the proper frequency and intensity is introduced to the hydrophobic material. This cycle would repeat itself several times per second and could be scaled up so as to allow for substantial amounts of energy to be generated by large reservoirs of apparently stationary fluid. Although the generation of the acoustic energy would require a modest amount of energy to be injected into the system, the energy generated would be far greater. Key to the mechanism is to use collocated combinations of two different materials, one of which is a mesh composed of a strongly hydrophobic material and the other of which is a series of conductive spikes affixed to a lower layer which protrude, conditionally, through the mesh when pushed through by vibration. When the conductive spikes sit below a certain boundary, they have no effect upon the surface tension. When the spikes are made to project above the surface, the tension is broken much like a balloon popping and the droplets would deflate. The less distance the spikes must move in order to switch on or off the hydrophobicity of the mesh material, the less energy is required to prime the system and the more efficient it would be as an energy-generation mechanism.

Conclusion

Although the fluid would appear stationary, no fluid is truly stationary where there exists a boundary between the fluid and a material which generates a high surface tension. The material acts its own energy-generation mechanism but must be rendered switchable, in this case, through acoustic energy, in order to allow for specialized fluids to facilitate the harvesting of the associated energy.